

AMENDMENTS TO THE CLAIMS

This Listing of Claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

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1. (Currently Amended) A method of communication between a client computer and a server computer connected to the client computer by a communications network, the method comprising the steps of:
 - (a) receiving, at the client, a user's selection of a hyperlink displayed by a browser, the hyperlink being that is a logical point of access to a file, the logical point of access hyperlink being associated with a logical reference contained in a parent file interpretable by the browser to display the hyperlink, the logical reference uniquely identifying the file independently of an electronic address at which the file is located;
 - (b) identifying an electronic address corresponding to the logical reference; and
 - (c) receiving, at the client, the file identified by the logical reference.
 2. (Previously Amended) The method of claim 1, wherein the identifying step is performed at the client by reference to a list of physical references at the client, the list of physical references identifying a plurality of electronic addresses corresponding to the logical reference.

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3. (Original) The method of claim 2, wherein the identifying step is performed at the client by a program for selecting a server and the method further comprises the step of:

(d) receiving at the client the program for selecting a server.

4. (Currently Amended) The method of claim 3, further comprising the step of:

(e) receiving at the client a parent file containing the logical ~~point of~~
~~access~~ reference.

wherein step (d) is performed during step (e); and step (e) is performed before step (a).

5. (Previously Amended) The method of claim 2, wherein the list of physical references is appended to the parent file.

6. (Previously Amended) The method of claim 2, wherein the server modifies the parent file to include the list of physical references before transmitting the parent file to the client.

7. (Original) The method of claim 6, wherein the server transmits the program for selecting a server to the client.

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8. (Original) The method of claim 7, wherein the server modifies the parent file to include the server selection program.

9. (Original) The method of claim 7, wherein the server computer modifies the parent file to include a reference to the server selection program before transmitting the parent file to the client.

10. (Currently Amended) A method of communication between a client computer and a server computer connected to the client computer by a communications network, the method comprising the steps of:

- (a) receiving, at the server, a request for transfer to a client of a parent file containing a logical reference, the request being in the form of a physical reference;
- (b) modifying the parent file, at the server, by inserting therein a list of physical references corresponding to each logical reference; and
- (c) transmitting, from the server to the client, the modified parent file.

11. (Original) The method of claim 10, wherein the method further comprises the step of:

- (d) modifying the file, at the server, by inserting therein a program for selecting a server.

12. (Original) The method of claim 10, wherein the method further comprises the step of:

(d) modifying the file, at the server, by embedding therein a reference to a program for selecting a server.

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13. (Previously Amended) The method of claim 12, wherein the method further comprises the step of:

(e) transmitting, from the server to the client, the program.

14. (Previously Amended) A method for communication between a client computer and a server computer connected to the client computer by a communications network, the method comprising the steps of:

(a) requesting, at a client, transmission of a parent file to the client, the parent file comprising a logical reference, the logical reference uniquely identifying a file independently of an electronic address at which the file is located;

(b) receiving the parent file at the client, the parent file comprising a list of electronic addresses corresponding to the logical reference;

(c) identifying, at the client, an electronic address from the list of electronic addresses, the electronic address identifying a server and the location of the file on the server; and

(d) requesting transmission of the file from the server to the client using the electronic address identified in step (c).

15. (Currently Amended) The method of claim 14, further comprising the steps step of:

(e) receiving a program for selecting a server, step (e) being performed before step (c).

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16. (Original) A client computer comprising: a memory for storing programs and data;

a processor for executing programs;

a parent file, stored in the memory, containing a logical reference uniquely identifying a file independently of an electronic address at which the file is located;

a list of physical references, stored in the memory, listing at least one electronic address for each logical reference; and

a program, stored in the memory, for selecting a server responsive to a request for the file identified by the logical reference, the program requesting the file using an electronic address from the list indicating the file's location on the selected server, and to repeatedly select an alternate server and submit an alternate request if the file is irretrievable from the selected server until the file is transmitted to the client or until the file has been requested from all servers identified in the list.

17. (Original) The client of claim 16, wherein the server selection program selects a server which is most likely to provide a fastest response time.

18. (Original) The client of claim 17, wherein the server selection program selects an alternate server which is most likely to provide a next-fastest response

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time, if the first-selected server fails to begin transmission of the requested file to the client within a predetermined amount of time.

19. (Original) The client of claim 18, wherein the program for selecting a server is comprises an instructional applet written in the Java programming language.

20. (Original) The client of claim 19, wherein the applet employs object signing technology to open connections to various servers and to save its state on a storage device on the client.

21. (Original) The client of claim 20, wherein the server selection program determines a server's expected response time on the basis of the server's times for response to past requests from the server selection program.

22. (Original) A server computer comprising:
a memory for storing programs and data;
a processor for executing programs;
a program, stored in the memory and executable by the processor, for transmitting, responsive to a request therefor, a parent file containing a logical reference, the program being capable of modifying the parent file by inserting a list of electronic addresses corresponding to the logical reference contained in the parent file before transmitting the parent file to the client.

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23. (Original) The server of claim 22, wherein the server stores in the memory a replication directory associating logical references to files with electronic addresses of the files stored on a plurality of servers, the list of electronic addresses being excerpted from the replication directory.

24. (Original) The server of claim 23, further comprising a second program for modifying the parent file by inserting a program for selecting a server upon a request for a file identified by a logical reference before transmitting the parent file.

25. (Original) The server of claim 23, further comprising a second program for modifying the parent file by inserting a reference to a program for selecting a server upon a request for a file identified by a logical reference before transmitting the parent file to the client.

26. (Original) The server of claim 25, further comprising a third program for identifying a status of each server identified in each electronic address in the replication directory as either a parent or child of the server in a genealogy tree representing servers storing the file.

27. (Original) The server of claim 26, further comprising a fourth program for tracking the server's load and to autonomously determine when, on the basis of the server's load, to delete one of the server's files, to delete the file, to update the server's replication directory to remove the electronic address of the file on the

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B) server, and to propagate an update request to all parent and children of the server in the replication directory requesting the parent and children to update their respective replication directories.

28. (Original) The server of claim 27, further comprising a fifth program for tracking the server's load and to autonomously determine when, on the basis of the server's load, to create or delete a replica of one of the server's files on another server, to create or delete a replica on another server, to update the server's replication directory to add or delete the electronic address of the file on the other server, and to propagate an update request to all parent and children of the server in the replication directory requesting the parent and children to update their respective replication directories.

29. (Original) The server of claim 28, further comprising a sixth program for updating the status of a server in the replication directory from child status to parent status when the server computer deleting the file is a root of the genealogy tree.

30. (Original) The server of claim 29, further comprising a seventh program for batching several updates into a single update request.

31. (Original) The server of claim 30, further comprising a eighth program for transmitting to another server, along with an update request, a local timestamp indicating the time at which an update to the server's replication directory was made,

 the other server receiving and retaining a record of the timestamp and updating the replication directory if the last received timestamp is more recent than the retained timestamp.

32. (Original) The server of claim 31, further comprising a ninth program for retaining the timestamp for a limited period of time, the other server updating the replication directory if a timestamp is received along with an update request and no timestamp is then retained by the other server.

33. (Previously Added) A method of communication between a client computer and a server computer connected to the client computer by a communications network, the method comprising the steps of:

- (a) detecting a user's selection of a parent file's hyperlink to a desired file;
and
- (b) if the hyperlink is associated with a logical reference of the parent file that identifies the desired file independently of a URL, identifying an electronic address stored in the parent file that corresponds to the logical reference.

34. (Previously Added) The method of claim 33, wherein the parent file comprises a plurality of electronic addresses corresponding to the logical reference.

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35. (Previously Added) The method of claim 34, wherein the identifying step comprises the step of selecting the electronic address from the plurality of electronic addresses.

36. (Previously Added) A method of communication between a client computer and a server computer connected to the client computer by a communications network, the method comprising the steps of:

- (a) detecting a user's selection of a parent file's hyperlink to a desired file;
 - (b) identifying a logical reference in the parent file that is associated with the hyperlink and that identifies the desired file independently of a URL; and
 - (c) selecting an electronic address that corresponds to the logical reference from a list of multiple electronic addresses stored in the parent file.
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